

Application of Human Resource Information System in the Firms of Bangladesh and Its Strategic Importance

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The necessity to integrate Human Resource Management (HRM) with information system has become sine qua non as modern firms are realising that their people and information resources are part and parcel for their survival. That is why; Human Resource Information Systems (HRIS) is now used extensively in all organizations irrespective of its size, tenure of establishment, complexities of operations etc. This study deals with the uses of HRIS in the organizations of Bangladesh that would provide new knowledge in the human resource management practices of Bangladesh. The whole study is conducted through data analysis (both primary and secondary), collected from respondents and various sources. This study shows that both manufacturing and service organizations in Bangladesh have very close purposes in using HRIS. Consequently, this study also reveals the strategic importance attached with HRIS applications as a whole among the firms in Bangladesh.

Field of Research: Management

JEL Codes: J24, J33, J53.

1. Introduction

Human Resource Management (HRM) is the organ that works with the people of an organization (DeCenzo and Robbins, 1996). It is the process of procurement, maintenance and development of human resource in the organization. Nowadays, new information technology is constantly used to improve the whole process and organization's overall competitiveness. High technology usage makes human resource professional free from many daily manual routine works and provides scope for improving service function and strategic decision making of the organization (Duff, 1989).

Managing human resources effectively has become a crucial factor to business success worldwide. Intense global competition for better quality product with cheaper price has altered all the earlier calculations regarding Human Resource utilization technique. Human resource management has received keen attention because of its recognition that better output could be gained from the use of information systems for managing human resources effectively. Collection of information on the aspects of salary and payroll, compensation, leave, accidents, employee benefits and other administrative and managerial functions have always been part of the human resource manager's function that need to be addressed properly through the Human Resource Information Systems as time is beeping to do such.

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Multinational corporations mainly brought the idea of HRM in Bangladesh during the mid-90's. Alongside the multinational corporations, a few other national organizations including Bangladesh Bank, Central Bank of Bangladesh, introduced the same practices in their personnel management in a very modern way. At present, many public and private universities with different institutes are offering courses on HRM in Bangladesh. This current trend reinforces the new strategic roles of human resource management in attaining the goals by firms of Bangladesh.

Initially, the human resource management practices were done manually by most of the organizations in Bangladesh. Now, the situation is changing very rapidly. Almost, all modern organizations (manufacturing and service) are using computer based information systems in managing their human resource functions. Many research works have already done by relating human resource management with organization's performance or employee satisfaction; but this study on the adoption of HRIS by Bangladeshi organizations are probably the first of its kind in Bangladesh. This study will definitely reveal the status, benefits and trends of HRIS application by Bangladeshi firms.

The structure of this study is divided into six parts. In second part, the objectives of the study are discussed. Part three presents the literature of the study. Then, the research methods and the reasons for selecting these methods in obtaining the purposes of the study are discussed in part four. The prime part of this study: findings and analysis would be presented in part five. In fine, the conclusion of the study is presented in part six.

2. Objectives of the Study

The purpose of the study is to find out the uses of HRIS in both manufacturing and service organisations of Bangladesh. The study further reveals the strategic importance of Human Resource Information System in Human Resource development of Bangladeshi firms.

3. Literature Review

Due to the increasing use of computerized information system in the industrial operations of developed economies, HR functions of enterprises got used to information systems highly during the 1980's. Human Resource Information Systems (HRIS) were primarily seen as a sub function of Management Information Systems (MIS) which support the HR functions of an organization. An HRIS (also known as a human resource management system or HRMS) can be as informal as the payroll records and time cards of a small business, for the vast majority of organizations, corporate success will increasingly depend on the coordinated, strategic management and integration of the organization's human resources and information technology (Kovach and Cathcart, 1999). Achieving this strategic coordination requires those responsible for developing, implementing, operating, and maintaining an HRIS to have a broad knowledge of the organization's human resource programs, the relationship between human resource programs and overall strategic planning, and the potential inherent in computer and data technology (Rampton, Turnbull, & Doran 1999).

HRIS as a single system covers a whole range of activities ranging from HR planning to IT development for the human resource department. According to Shibly (2011), HRIS can help long range planning with information on labour force planning, employee demand and supply forecasts, staffing with appropriate employees, developing training programs

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that are necessary, salary and pay forecasts and budgets and overall employee assistance services. Risk and security management can be another important function done by HRIS by analysing individual employee data (Karakanian, 2000). So, HRIS can be defined as “integrated system used to gather, store and analyze information regarding an organization’s human resources’ comprising of databases, computer applications, hardware and software necessary to collect, record, store, manage, deliver, present and manipulate data for human resources function” (Hendrickson, 2003).

In 2001, Michie and Sheehan – Quinn conduct a survey over 200 manufacturing firms in the UK investigating the relationship between corporate performance and human resource systems. The study found that ‘low-road’ practises including less training and motivation, short-term contracts, lack of job security etc. were inversely related with corporate success. Alternatively, they found positive relationship between ‘high-road’ practises like high job security and best training etc. and corporate performance.

A study on the adoption of HRIS among the 500 listed firms of Singapore is conducted by (Teo, Soon and Fedric 2001) . This study shows that most of the firms (60.3%) adopted HRIS still use it for traditional purposes. A very small percentage (7.9%) uses HRIS for strategic purposes. Another similar study is conducted by Lin, C.Y.Y., (1997) on the adoption of HRIS in Taiwan. For different level of HRIS (EDP, MIS, DSS), this study finds that management information system is the most sought area by the Taiwanese firm for HRIS implementation.

A HRIS is used to acquire, store, manipulate, analyze, retrieve and distribute pertinent information regarding an organization’s human resources (Kavanagh et al., 1990). But the application of HRIS provides benefits not only to the HR functions of an organization but also to the line managers and overall organization (Parry, 2009). The growing use of web technology in HR functions and the outsourcing of personnel management activities provide HR professionals more chance to engage in strategic activities (Kulik & Perry, 2008).

Existing literatures prove that application of HRIS in different contexts is one of the highly researched issues across the different countries of the world. All studies provide the message that the central usage of HRIS is the efficient management of the human resource functions of any organization.

In spite of going through several studies, directly relating to Human Resource Management Systems and the proper use of HR in the context of firms of Bangladesh, it is very scarce to see research works on the area this work is based on. Most of the works on Human Resource Management practices in Bangladesh have tried to show how human resource management can improve the firm’s performance and employee satisfaction. The issues of information system on organization’s human resource management and development are highly neglected in Bangladesh till yet.

4. Methodology

4.1 Sources of Data

To meet up the objectives of the study, data have been collected from the respondents with the help of semi-structured questionnaire. The respondents are the HR executives who are doing their assignments in different public and private

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organizations in Bangladesh. The whole interview was conducted through the time period June 2012-November 2012. Besides primary data, some other information has been collected through different literatures, journals, publications etc. The population of the study is the manufacturing and service organizations HR executives in Bangladesh especially who have knowledge in Human resource information system.

4.2 Sample of the Study

Non-probability judgement sampling has been used to complete the study. Due to time and cost constraint, it was not possible to take sample from all the organizations of Bangladesh. Data have been collected from 60 (Sixty) manufacturing and service firms HR executives that are publicly and privately managed.

4.3 Tools Used

Statistical tool: Correlation analysis is mainly used to complete the study. As it is the introductory study on the HRIS application in Bangladesh, analysis and data collections were limited. No model is used here because of the descriptive nature of the study.

4.4 Research Questions

Questions 1: What are the uses of HRIS in manufacturing organizations of Bangladesh and what activities get importance?

Question 2: What are the uses of HRIS in service organizations of Bangladesh and what activities get importance?

Question 3: Are there any difference between manufacturing and service organizations in the uses of HRIS?

5. Findings and Discussion

5.1 Findings from Analysis

Findings of this survey exhibit that the sampled firms of Bangladesh are using HRIS either extensively or moderately. The organisations have been chosen on the basis of some established criterion, among them, year of establishment at least five years is mandatory to be our respondents. To get answer to the research questions, correlation analysis between variables have been used separately.

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Table 1: Calculation of the degree of opinion between the HR executives of service and manufacturing firms in HRIS use preference:

Types of HR related activities done by HRIS	Ranked by HR manager of Manufacturing firms R_1	Ranked by HR manager of Service firms R_2	$(R_1 - R_2)^2$ D^2
HR planning	10	9	1
HR recruitment	9	10	1
HR selection	7	7	0
Performance appraisal	8	8	0
HR training	5	6	1
Compensation	6	5	1
Promotion	1	2	1
Transfer	2	4	4
Demotion	3	1	4
Retrenchment	4	3	1
N=10			$\sum D^2 = 14$

Calculation:

$$\begin{aligned}
 R &= 1 - \frac{6\sum D^2}{N(N^2-1)} \\
 &= 1 - \frac{6*14}{10(10^2-1)} \\
 &= \frac{906}{990} = 0.915
 \end{aligned}$$

Here, the value of R equals to 0.915. The table 01 show that the preference of HR executives of both manufacturing and service firms, in case of using HRIS for preferable HR related activities agree very closely that delineates importance of HRIS for execution of their day-to-day HR operations efficiently.

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Table 2: Strategic importance given by the HR executives for HRIS use

Major HR activities	Strategic importance of HRIS (Weight %)	No. of HR executives	Cumulative Frequency	Relative frequency (%)
HR planning	15	8	8	14
HR recruitment & selection	35	20	28	33
Performance appraisal	25	12	40	20
HR training	8	10	50	17
Compensation Management	12	5	55	8
Succession Planning	5	5	60	8
	100%	N= 60		100.00

From the above table 02, it is easily drawn that HR managers mostly use HRIS for HR recruitment and selection purposed markedly 35% in weight by 33% executives whereas Succession planning on the lower rank in importance that is 5% in weight and agreed by 8% of HR executives that ultimately aligns with our earlier established premise of HRIS and effectiveness of firms' operation.

Table 3: Calculation of Correlation between Number of years of HRIS- use and Employee retention in the organization:

No. of years in use of HRIS (X)	$x - \bar{x} = x$	Average years of Employee retention in Firms (Y)	$y - \bar{y} = y$	x^2	y^2	xy
4	1	3	1	1	1	1
1 and Below	-2	1	-1	4	1	2
3	0	2	0	0	0	0
2	-1	1	-1	1	1	1
5 and above	2	3	1	4	1	2
$\Sigma x=15$	$\Sigma x=0$	$\Sigma y=10$	$\Sigma y=0$	$\Sigma x^2=10$	$\Sigma y^2=4$	$\Sigma xy=6$

$$\bar{X} = \frac{\sum X}{N} = \frac{15}{5} = 3$$

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$$\bar{Y} = \frac{\sum Y}{N} = \frac{10}{5} = 2$$

$$r = \frac{\sum xy}{\sqrt{x^2 \cdot y^2}}$$
$$= \frac{6}{\sqrt{10.4}} = \frac{6}{\sqrt{40}} = \frac{6}{6.32}$$

=. 94

Here, by this calculation, our calculation shows (r=.94) that No. of years in use of HRIS and Average years of Employee retention in Firms are highly correlated.

The above findings contradict with the statement provided by Kovach and Cathcart, (1999) and Groe et al. (1999) that HRIS is more commonly used for strategic purposes; such as: HR planning, recruitment, selection, training and development, succession planning and so on. In Bangladesh, this study shows that HRIS is highly used for recruitment, selection and performance appraisal purposes. But the trend of HRIS application is expected to change in future by predictions made by the surveyed Bangladeshi managers. The information generated from HRIS application may be used more for strategic purposes in coming days. These applications emphasize not only doing administrative tasks faster and with less manpower, which usually produce tangible monetary-value benefits but also intangible strategic benefits of Human Resource management which is gained mainly through self- motivated and satisfied unparalleled pool of workforce.

5.2 Strategic benefits Availed by the Firms of Bangladesh by Using HRIS

In the survey, HR professional asserts that HRIS has showed many strategic benefits to the HR operations among Bangladeshi firms. A few of them can be detailed as:

- Faster information process.
- Greater information accuracy.
- Improved planning and program development.
- Enhanced employee communications.
- Monitoring of costs related to HRM.
- An advanced customer approach of the HR department towards other departments within the firm.
- Independent professional assessment of IS support for HR processes including HRIS security.
- Specific recommendations for suitable HRIS updates.
- Guarantee of the effectiveness of the HRIS investment and negotiation of advantageous conditions for the delivery thereof.

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5.3: Major HRIS software used in the Firms of Bangladesh for achieving strategic goal

- **Abra Suite:** For human resources and payroll management.
- **ABS (Atlas Business Solutions):** General Information, Wages information, emergency information, Reminders, Evaluators, Notes customer information, Documents and photos, Separation information.
- **CORT: HRMS:** Applicant tracking, Attendance tracking and calendars, Wage information, Skills tracking, Reports-to information, Status tracking, Job history tracking, Cost center tracking, Reviews and tracking, Mass update and change tools etc.
- **HRSOFT:** Identify and track senior managers, Assess management skills and talents, Generate a wide range of reports, resumes, employee profiles, replacement tables and succession analysis reports, Identify individuals for promotion, skills shortages, unexpected vacancy, Discover talent deep, Competency Management, career development, align succession plans etc.
- **Human Resource Microsystems:** Sophisticated data collection and reporting, flexible spending accounts, compensation, employment history, time off, EEO, qualifications, Applicant/Requisition Tracking, Position Control/Succession Planning, Training Administration, Organization Charts, HRIS-Pro Net (employee/managerial self-service), HR Automation (e-Notification and e-Scheduler), and Performance Pro (performance management).
- **ORACLE- HRMS:** Oracle iRecruitment, Oracle Self-Service Human Resources, Payroll, HR Intelligence, Oracle Learning Management, Oracle Time and Labour.
- **PEOPLESOFT:** Enterprise e-Recruit, Enterprise Resume Processing, Enterprise Services Procurement, Workforce Planning, Warehouse.
- **SAP HR:** Human Capital Management (HCM) for Business, All-in-One: Rapid HR,
- **SPECTRUM HR:** iVantage® and HRVantage®. iVantage is a Web-based HRIS product designed for organizations with up to 10,000 employees.
- **VANTAGE: HRA:** 'Point-and-Click' report writing, internal Messaging System for leaving reminders to yourself, to someone else or to everyone using HRA - very useful for Benefit Applications, Disciplinary Actions, Special Events, Employee Summary Screen for Basic, Leave (Absenteeism) and Salary/Position History, skills & training module, Leave Tracking Module

Besides the above software, some firms use their own customised HRIS software like Frontiers, e-views, Biotech HRM system, PIMS, ERP solution, Basel ii, Flex cube, for HR management purposes.

5.4: Obstacles to the Success of HRIS use Among the Manufacturing and Service firms of Bangladesh:

- Lack of management commitment
- Satisfaction with the status quo
- No or poorly done needs analysis
- Failure to include key people

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- Failure to keep project team intact
- Politics / hidden agendas
- Failure to involve / consult significant groups
- Lack of communication
- Bad timing (time of year and duration).

The findings of the study will definitely enrich the literatures on HRIS about the emerging countries or less developed countries. The readers will understand how the information system is gradually changing the different aspects of human resource management in a transitional country, Bangladesh.

6. Conclusion and Recommendations

Corporate success entirely depends on strategic management and integration and proper use of the organization's human resources and information system effectively. Achieving this strategic coordination requires developing, implementing, operating, and maintaining an HRIS in order to have a broad based benefits through the organization's human resource programs, the relationship between HRIS and proper use of HR now has proved by their close association in this study. This study also concludes that uses of HRIS in Bangladeshi firms are more routine oriented rather than strategic orientation. Effectively, this study just provides information regarding HRIS practices in Bangladesh which is already studied in different contexts throughout the world. This study has some limitations such as: only a limited number of firms are considered in case of data collection, time period over which information is gathered just only 3 months, statistical tools and techniques used for analysis are also very limited. The author believes that there is a huge scope exists in this area for further research. Finally, there are some recommendations that have been pronounced by (Ajuwon 2002) may prove very realistic in the perspective of Bangladesh. He asserts that HR should be proactive in the process and highlights three different perspectives for practical action:

Firstly, the process perspective: This continues for getting the fundamental building blocks (people processes) right and ensuring their relevance at all times. This demands close and detailed knowledge of HR processes and a commitment to improvement and efficiency. HR professionals need to understand their own objectives and the relationship with business strategy.

Secondly, the event perspective: This focuses on providing a framework for knowledge management. In other words, capturing the experience and information available in that harnesses the organization and making it available to individuals.

Finally, the cultural perspective: This acknowledges that HR has a pivotal role in the proactive engagement of the entire organization in a changing climate.

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